

## EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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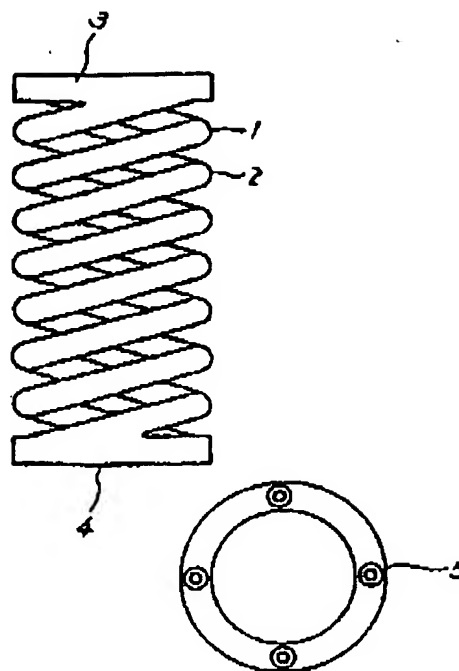
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APPLICANT : HITACHI METALS LTD:

INVENTOR : YANO MITSURU;

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TITLE : COIL SPRING



**ABSTRACT :** **PURPOSE:** To make it possible to deform a coil spring without the coil spring being inclined, by arranging an even number of material wires symmetrically with the center of the coil at each end of the coil spring.

**CONSTITUTION:** Two material wires 1, 2 having upper and lower attaching parts 3, 4 are arranged symmetrically with respect to the center of the coil at each end of the spring, and are cast into an integral structure. Further, screw holes 5 allows the attaching parts 3, 4 to be secured to the other parts, and the spring may be used as both tension spring and compression spring. Accordingly if the number of materials is even, the wires are arranged symmetrically with respect to the center of the coil, and therefore, deformation is made without being deformed. Thereby it is possible to expect stable spring operation.

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